

## Manually Operated Chain Hoists (SPS)

**REQUIRED CERTIFICATES**

- The hoists in this contract require specifications and tests that are additional to standard "off the shelf" hoists. The hoists must meet all the specifications listed below.
- A Certificate of Compliance (COC) from the manufacturer for items 1.1 thru 3.2 is required. One COC is acceptable per hoists part/model number.
- For items 3.3 thru 3.5, (static proof test, dynamic proof test, and visual inspection) the manufacturer shall provide a Test Certificate for each individual hoist. The Test certificate must identify each hoist by a serial number.
- The Contractor shall extend to the Government the full coverage of any standard warranty normally offered in a similar sale, provided such warranty is available at no additional cost to the Government.
- Prior to the contract being awarded, the vendor/contractor shall supply the technical documentation of the equipment to the contracting agent for PSNS & IMF, who will forward to the Cognizant Engineering Code (Code 2370) for approval.
- Failure to provide the Certificate of Compliance and Testing Certificates from the manufacturer is cause for rejection of this material.

**1. Material Properties**

- 1.1 **Material** - The hoist shall contain no cast iron metal parts.

**CERTIFICATE OF COMPLIANCE REQUIRED**

- 1.2 **Load Chain Material** - The load chain shall be carbon or alloy steel, welded link type, and accurately pitched so as to pass smoothly over all load sprockets without binding. Authorization from manufacturer is required to remove any temporary coating.

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- 1.3 **Hand Chain Material** - The hand chain shall be carbon, alloy steel, or stainless steel. The hand chain links, which pass over the hand chain wheel on edge (alternate to those which lie flat in the pockets) are installed with the welds away from the center of the hand chain wheel.

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- 1.4 **Hook Material** - The hooks on the Chain Hoist(s) must meet the technical requirements of ASME B30.10 and be weldless with a minimum factor of safety of 4 to 1 based on the manufacturer's rated safe working load.

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- 1.5 **Surface Treatment** - Load chain, hand chain and hooks shall have NO surface treatments such as paint, plating, zinc coating or galvanization. Hooks may be painted ONLY if the manufacturer agrees the hooks may be bead blasted locally. Load chain and hand chain may have Nickel diffused plating.

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**2. Design Factors**

- 2.1 **Minimum Factor Of Safety** - The rated capacity of the Chain Hoist shall have a minimum factor of safety of 4 to 1 based on the ultimate strength of the material.

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- 2.2 **Specifications** - Chain Hoist(s) shall be manufactured in accordance with the requirements of:

(a) ASME B30.16 Hoists, Overhead (Underhung).

(b) ASME HST-2-2014, Performance Standard for Hand Chain Manually Operated Chain Hoists (Main Body, not Appendix A).

**CERTIFICATE OF COMPLIANCE REQUIRED**

Contract # \_\_\_\_\_

Drawing: 2370-1558  
Change: DRN D-6  
Page: K1-1

## Manually Operated Chain Hoists (SPS)

- 2.3 **Marking** – Chain Hoists shall be permanently marked with manufacturer's identification and safe working load or designated rated special purpose capacity to provide traceability of the item to the manufacturer. The Chain hoist cannot be down rated to meet these specifications, but must be marked as originally designed. Example: A chain hoist designed to have a 6 ton capacity CANNOT have the 6 ton capacity markings removed, then marked and sold as a 3 ton chain hoist.

**CERTIFICATE OF COMPLIANCE REQUIRED**

- 2.4 **Defect Removal** - The manufacturer shall authorize defect removal on the hook by grinding, provided that such grinding anywhere on the hook does not reduce the cross-sectional dimension to less than 90% of the manufacturer's nominal dimension. Grinding shall longitudinally follow the contour of the hook and be contoured with a 3:1 taper.

**CERTIFICATE OF COMPLIANCE REQUIRED**

- 2.5 Provide a list of any parts and corresponding part number, which have been replaced or upgraded from the standard commercial hoists in order to meet this specification. This list will be used for future maintenance purposes.
- 2.6 The Chain hoist shall be one of the manufacturer's current production models, new and unused. Hoist must have double pawl springs and double brake cover to keep out dust, rain and dirt.
- 2.7 Two sets of Operating and instruction manuals, containing drawings, inspection instruction, parts lists(s), assembly/disassembly instructions, etc., are required for each type of hoist provided.

**3 Testing**

- 3.1 **Periodic Load Testing** - The manufacturer shall authorize periodic load testing between 125% and 130% of the manufacturer's rated capacity.

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- 3.2 **Maximum periodic Load Test** - The manufacturer shall specify its recommended maximum periodic test load (must be no less than 130%).

**CERTIFICATE OF COMPLIANCE REQUIRED**

- 3.3 **Static Proof Test** - The manufacturer shall perform a static proof test on each hoist at 125% of the manufacturer's rated capacity and hold for at least 10 minutes. The load chain must be static proof tested to 150% of manufacturers rated capacity and held for at least 10 minutes per ASME B30.16 and ASME HST-2-2014. Proof test shall include the entire usable length of load chain. Visually inspect before during and after proof test with no appearance of slippage, permanent deformation or visible damage allowed.

**CERTIFICATE REQUIRED**

- 3.4 **Dynamic Proof Test** - The manufacturer shall perform and provide documentation of a 125% dynamic load test. Load test shall include at least one revolution of all moving load bearing parts and at least one foot of height change. Hoist shall exhibit smooth and regular motion without any hesitation, abnormal vibration, binding, gross shimmy or irregularity. Ensure the brakes are working and hold the load satisfactory. Ensure both hooks spin while under rated load.

**CERTIFICATE REQUIRED**

- 3.5 **Visual Inspection** - After the proof test, the manufacturer will visually inspect the manual operated chain hoist for damage such as nicks, gouges, cracks, bending or elongation or other defects that could affect the use of the chain hoists.

**CERTIFICATE REQUIRED**